Medical Radiography Technology

Radiographic Applied Skills

COURSE INFORMATION

COURSE NUMBER	**MRAD 285**
TOTAL HOURS	**50**
THEORY	**40**
PRACTICAL	**10**
PREREQUISITES	**ANPH 252 - Anatomy and Pathology 2** **MRAD 202 - Patient Care 2** **MRAD 240 - Specialized Imaging 1** **MRAD 251 - Computed Tomography Theory 1** **MRAD 254 - Fluoroscopic Imaging** **MRAD 256 - Radiographic Technique 2** **MRAD 358 - Clinical Integration 1** **PRCT 353 - Clinical Placement I**
CO-REQUISITES	**None**
ACADEMIC UNIT RESPONSIBLE FOR COURSE	**Allied Health Education**

STUDENTS, PLEASE NOTE

This course contains information that may be required to substantiate learning for professional recognition. It is your responsibility to retain a copy for your own use during your program and after graduation.

COURSE DESCRIPTION

This course introduces adaptive radiology, the process of modifying procedures, and patient care skills to meet specific situations. Assessing and managing patients using effective communication and problem-solving strategies will be performed in a lab setting. Focus will also be placed upon critical thinking, teamwork, conflict management, and decision-making skills in the workplace. The practical component for hands-on learning is conducted at the clinical environment.

COURSE OBJECTIVES

Following completion, the student will be able to:

1. Apply critical-thinking and problem-solving strategies in a healthcare setting.
    - 1.1 Identify key challenges in a healthcare environment.
    - 1.2 Describe critical-thinking techniques to manage difficulties with patients and circumstances in the healthcare environment.
    - 1.3 Identify potential barriers to decision making.
    - 1.4 Describe how ethical considerations can impact decision making.
    - 1.5 Describe the problem-solving process.
    - 1.6 Identify best solutions for challenges in patient care.

2. Perform mobile radiographic imaging.
    - 2.1 Identify common radiographic exams performed in a mobile setting.
    - 2.2 Identify clinical environments where mobile radiography is commonly performed.
    - 2.3 Discuss changes to technical factors when performing mobile radiography.
    - 2.4 Describe best practices for radiation protection during mobile procedures.
    - 2.5 Communicate with other healthcare professionals when doing a mobile exam.
    - 2.6 Examine mobile images for diagnostic quality.

3. Perform trauma and adaptive radiography.
    - 3.1 Differentiate between trauma and adaptive radiography.
    - 3.2 Describe radiographic adaptations used in trauma radiography.
    - 3.3 Perform trauma imaging of the axial skeleton.
    - 3.4 Perform adaptive imaging of the appendicular skeleton.
    - 3.5 Discuss effective strategies for managing the emotional effects of trauma imaging from a technologist's perspective.
    - 3.6 Examine trauma images for diagnostic quality.
    - 3.7 Differentiate between trauma images and routine practice.
    - 3.8 Discuss methods to improve radiographic images.

4. Apply effective communication skills to patient care.
    - 4.1 Describe communication strategies for optimizing patient care.

4.2 Explain why accurate and consistent verbal, non-verbal, and written messaging is crucial when communicating.
4.3 Discuss potential barriers to communication in the healthcare environment.
4.4 Demonstrate effective communication skills with different age groups.
4.5 Demonstrate effective communication skills with support personnel.
4.6 Demonstrate effective communication techniques with cultural, religious, and socio-economic variables.
4.7 Explain invasive diagnostic imaging procedures to a patient.
4.8 Explain technical information to patients using clear and simple language.
4.9 Reflect on effective communication skills used for optimizing patient care.

5. Collaborate with healthcare professionals for optimizing patient care outcomes.
5.1 Describe key components of teamwork.
5.2 Categorize the members of the extended healthcare team from the standpoint of a radiologic technologist.
5.3 Discuss the importance of teamwork in radiography.
5.4 Describe strategies for maximizing effective teamwork in radiography.
5.5 Perform teamwork with radiological technologists to optimize patient outcomes.
5.6 Discuss collaboration on radiological cases with other healthcare professionals.
5.7 Reflect on best practices in communication and teamwork.

6. Manage a radiological exam for a non-routine patient.
6.1 Describe strategies used to determine the mobility of a patient.
6.2 Assess a patient's mobility and cooperation.
6.3 Prioritize radiography exams when working independently.
6.4 Prioritize imaging for a single patient with multiple exams.
6.5 Interact with a simulated patient in a caring and professional manner.
6.6 Apply patient transfer techniques.

7. Perform venipuncture.
7.1 Discuss anatomy and procedures associated with venipuncture.
7.2 Describe all the equipment required to perform venipuncture.
7.3 Describe the procedural steps involved in venipuncture.
7.4 Perform techniques used in vein assessment.
7.5 Perform the procedural steps involved in performing venipuncture aseptically.
7.6 Describe infection control measures needed for maintaining aseptic technique in venipuncture.
7.7 Describe the challenges of venipuncture and how to overcome them.

COMMON STUDENT LEARNING OUTCOMES

Upon successful completion of Edenbrook College programs, the student will:

Learn

Students will actively and independently acquire, apply, and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.

Think

Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.

Communicate

Students will exchange ideas and information with clarity and originality in multiple contexts.

Integrate

Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.

Act

Students will act purposefully, reflectively, and respectfully in diverse and complex environments.

EVALUATION

COLLEGE GRADING SYSTEM

The student must achieve an overall minimum grade of 70% on course assessments to be successful.

Students who achieve a failing grade of less than 70% may be eligible to write a supplemental examination to gain course credit. Remedial assistance will be required prior to writing the supplemental examination. Students will not progress in the program without achieving a passing grade in the course.

COURSE EVALUATION

Quizzes (5)	20%
Labs (6)	50%
Professionalism Evaluation	30%
TOTAL 100%	

ASSESSMENT RATIONALE/ CRITERIA

Achievement of learning outcomes will be assessed through class participation, class work, group activity, assignment, tests, project, mid-semester examination, and end of semester examination. Assessment will require students to demonstrate understanding and application of all the topics taught.

LEARNING MATERIALS

REQUIRED TEXTS

Kendrick, L. & Lampignano, J. (Last Published). Textbook of Radiographic Positioning and Related Anatomy (Current ed.). St. Louis, MO: Mosby Elsevier.

SUGGESTED READINGS

To be determined by the instructor.

REFERENCE TEXTS AND MATERIALS

To be determined by the instructor.

TEACHING/LEARNING STRATEGIES

Lectures on all the topics, power point presentations, video presentations, classwork, assignments, groupwork. All the students are expected to familiarise themselves with foundational knowledge prior to class. Personal study before and after classes and use of online resources are essential.

COLLEGE POLICY STATEMENTS

Refer to the Edenbrook College Student Handbook for more information on the following policies.

ACADEMIC RESPONSIBILITY – STUDENTS

1. Each student must know the due dates for assignments, tests, and examinations.
2. Each student must maintain their own academic record of work covered each Unit/term.
3. Each student must maintain paper and electronic copies of assignments for the academic year.
4. Each student must arrange academic discussion time with a faculty member to discuss progress.
5. Each student must perform self-evaluation on progress in the course.

PERSONAL CONDUCT – STUDENTS

1. Students must arrive on time for class and be prepared to work when the instructor begins.
2. Students must be courteous to faculty and classmates.
3. Eating in classrooms and clinic is not allowed.
4. Cell phones, Text messengers and other electronic devices must be turned off during class time.

ACADEMIC ADVANCEMENT

At mid-point and at the end of each academic term, the members of the Faculty Team (FT) for the Medical Radiography Technology program meet to review the progress of all students. Following these meetings each student is advised orally and in writing of their status in the program.

Students experiencing difficulty will be counseled regarding assistance available to foster academic success.

At the end of each term, the Medical Radiography Technology Program Instructor and or Director of Education will make recommendations after deliberating on all relevant information. Decisions regarding each student may include (but are not limited to) the following. S/he has:

- Successfully completed all program requirements and can graduate.
- Successfully completed all requirements and is promoted to the next academic level in the program.
- Been granted supplemental privileges for courses not successfully completed and if successful will graduate or be promoted to the next academic level. **Supplemental privileges are not automatically granted and will be limited in number.**
- Not successfully completed all elements in the academic level but may remain in the program to repeat failed portions and continue toward program completion according to an individualized timetable.
- Experienced such difficulty that repetition of the entire academic level is required, and a space will be provided for the student in the program at the earliest opportunity if the student wants to return.
- Experienced such difficulty that the student is asked to leave the school and if s/he desires readmission must complete the admissions process in competition with other applicants.

ATTENDANCE

Attendance is mandatory – The College reserves the right to determine whether absences are excused or unexcused (may affect student funding) and to request any medical evidence that may be required. Student tardiness is unacceptable, and students are expected to demonstrate professional behaviour at all times, in class or on a clinical placement. Students are entirely responsible for catching up on their own or for missed material and demonstrations. A doctor's note may be requested for each absence.

Absence from Missed Test/Assignment Due Protocol

Upon return to school, the student is to provide a doctor's note or approved excusable absence to the instructor prior to admission to the make-up test/submission of late assignments. Failure to submit an approved excuse within 5 school Units upon return, the student will receive a zero for all missed, tests and late assignments.

Absence from Class Protocol

The College monitors attendance closely. A student who is absent from a class more than 3 times in a term, will be identified at risk and required to submit a doctor's note or approved excusable absence to their instructor(s) and the Program Instructor prior to readmission to the class.

Make-Up Procedure

All students are expected to take exams at the scheduled time. Make-up exams will be arranged only in recognized emergency cases. The instructor must be informed before or during the exam, to be eligible. Refer to the Edenbrook College Student Handbook for protocols. Quizzes are taken in class and at the time
specified by the instructor. Late students will be given no extra time for the quiz. Quizzes given in the classroom cannot be made-up.

CHEATING AND PLAGIARISM

Any evidence of cheating will result in a failure for the course. Evidence of plagiarism will result in a failure for all students involved in the plagiarism. Plagiarism is turning in the work of someone else as if it was your own. When working on assignments in a group setting, students must submit their assignments using their own words. Identically worded assignments submitted by multiple students are acts of plagiarism.

MOBILE PHONES

Mobile phones are to be turned completely OFF while class is in session. Please use laptop computers responsibly. Web browsing, messaging, emailing, and recording are otherwise prohibited during class. Students who abuse the privilege of using their laptops will be asked to put it away for the duration of the class.